

Claim 12 (Amended) The apparatus as described in Claim 9, wherein said gas is comprised of said inert gas and a chemically reactive gas.

IN THE SPECIFICATION:

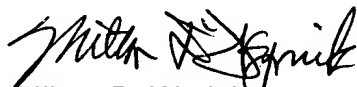
Page 9, lines 15-28: It is important to note that inasmuch as the present invention utilizes RF energy to create a plasma and to process materials, electrically conductive enclosure 11 does not necessarily need to be grounded. In some circumstances it may be desirable to have electrically conductive enclosure 11 floating and apply RF energy 15 at some predetermined phase, which can differ by as much as 180°, with respect to RF energy 16 applied to electrode 13, to enhance the effectiveness of the processing. In this situation, a protective, grounded casing 14, shown by dashed lines in Figure 1, would enclose the invention for safety reasons. An appropriate frequency for the RF energy used in the present invention is 13.56 Megahertz (MHz), however other RF frequencies might also prove useful.

REMARKS

Applicants respectfully request that the above-identified amendments be entered into this patent application. Marked-up versions of the amended claims and specification is provided in Attachment A. No new matter has been added by these amendments.

Therefore, this application is considered to be in condition for allowance, and such action is earnestly solicited.

Respectfully submitted,


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ATTACHMENT A

MARKED UP VERISONS OF THE AMENDED CLAIMS AND AMENDED PARAGRAPH OF THE SPECIFICATION

IN THE CLAIMS:

Claim 1 (Twice Amended) Apparatus for processing materials in an atmospheric pressure radio-frequency non-thermal plasma comprising:

an electrically conductive enclosure defining an interior space with a surface and openings for introductions of a gas and for entry and exit of a material to be processed;

an electrode situated inside said interior space and spaced apart from said surface of said interior space a distance sufficient to allow placement of said material to be processed while said interior space is at or near atmospheric pressure ;

a mechanical action for placing said material to be processed inside said interior space on said electrode or between said electrode and said electrically conductive enclosure;

wherein a gas containing a majority of inert gas is introduced into said interior space through said opening for introduction of a gas and a radio-frequency voltage applied between said electrically conductive enclosure and said electrode creates an atmospheric pressure plasma in said interior space for processing said material to be processed within said electrically conductive enclosure.

Claim 3 (Amended) The apparatus as described in Claim 1, wherein said gas is comprised of [an] said inert gas and a chemically reactive gas.

Claim 9 (Twice Amended) Apparatus for processing materials in an atmospheric pressure radio-frequency non-thermal plasma comprising:

an electrically conductive enclosure defining an interior space with a surface and inlets for a gas and for entry and exit of a material to be processed while said interior space is at or near atmospheric pressure ;

an electrode spaced apart from said electrically conductive enclosure and capable of placing said material to be processed inside said interior space between said electrically conductive enclosure and said electrode, said material to be processed being in contact with said electrode;

wherein a gas containing a majority of inert gas is introduced into said inlet for gas and a radio-frequency voltage applied between said electrically conductive enclosure and said electrode creates an atmospheric pressure plasma in said interior space for processing said material to be processed as it passes through said electrically conductive enclosure.

Claim 12 (Amended) The apparatus as described in Claim 9, wherein said gas is comprised of [an] said inert gas and a chemically reactive gas.

IN THE SPECIFICATION:

Page 9, lines 15-28: It is important to note that inasmuch as the present invention utilizes RF energy to create a plasma and to process materials, electrically conductive enclosure 11 does not necessarily need to be grounded. In some circumstances it may be desirable to have electrically conductive enclosure 11 floating and apply RF energy 15 at some predetermined phase, which can differ by as much as 180°, with respect to RF energy 16 applied to electrode 13, to enhance the effectiveness of the processing. In this situation, a protective, grounded casing 14, shown by dashed lines in Figure 1, would enclose the invention for safety reasons. An appropriate frequency for the RF energy used in the present invention is 13.56 Megahertz (MHz), however other RF frequencies might also prove useful.